

# Class 07

## Topics

- PropertyChangeListener Pattern
  - PropertyChangeListener Interface
  - SimplePropertyDumper Example
  - SimpleStatsTimeVarying
- SimEventListener Pattern
  - SimEntityBase Implementation
  - Use of “Resonance” to Process SimEvents

# PropertyChangeListener

## • Basics

- When a state variable changes value in a Simkit model, it should fire a `PropertyChangeEvent`
- This is done via the “`firePropertyChange()`” method, which is inherited from `SimEntityBase`
- Many signatures possible. We have seen `(String, int)` and `(String, int, int)`
- First argument is always the “name” of the property

- In a two-argument case, second argument is the new value
- In a three-argument case, second argument is old value, third is new value
- Objects may register “interest” in a `PropertyChangeSource`’s `PropertyChangeEvent`s by “`addPropertyChangeListener()`” method
- Must implement `java.beans.PropertyChangeListener` interface
- When `PropertyChangeEvent` is fired, all registered listeners “hear” the event via call to `propertyChange(PropertyChangeEvent)` method

# SimplePropertyDumper

```
public void propertyChange  
(PropertyChangeEvent e) {  
    System.out.println (e.getPropertyName () +  
        ": " +  
        e.getOldValue () + " => " +  
        e.getNewValue ());  
}
```

# SimpleStatsTimeVarying

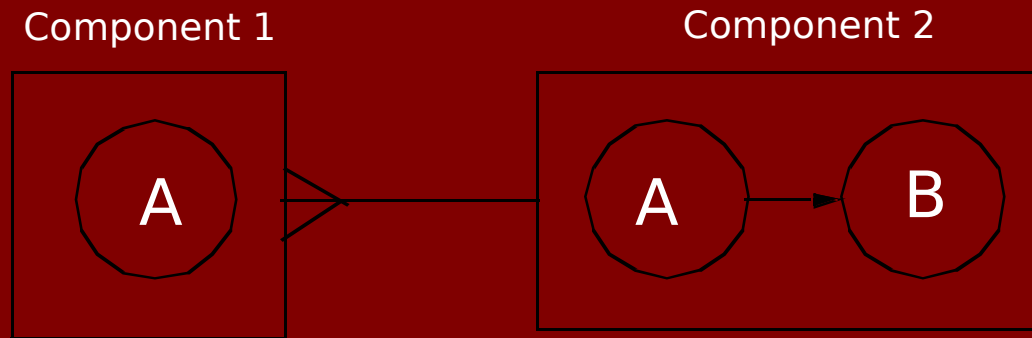
- Keeps an instance variable of the name of the property for which it is listening
- If it hears a `PropertyChangeEvent` with that name, it updates its statistics:

```
public void propertyChange (PropertyChangeEvent e) {  
    if (e.getPropertyName () .equals (myPropertyName) {  
        newObservation( ((Number) e.getNewValue() )  
        .doubleValue());  
    }  
}
```

# SimpleStatsTally

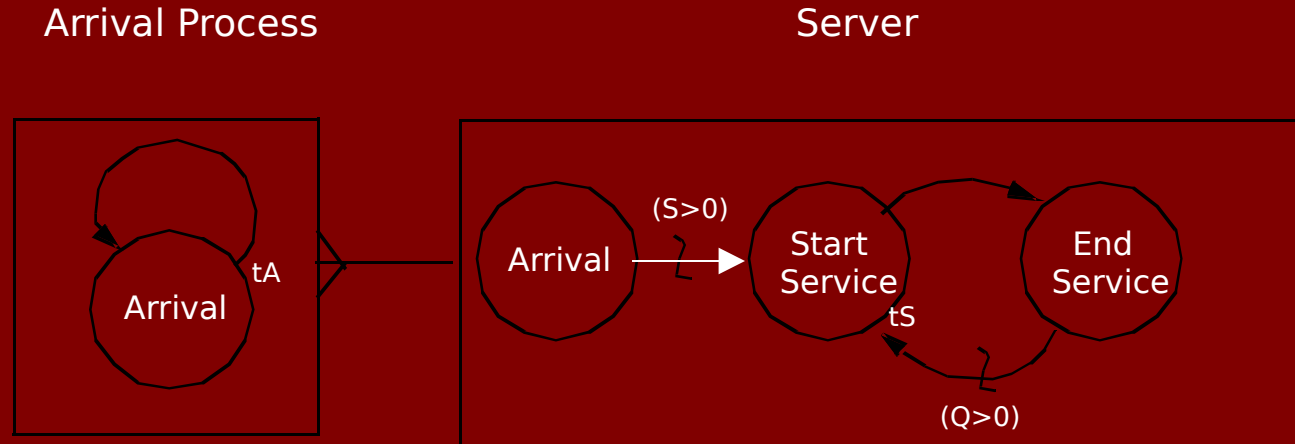
- Similar, except that the Tally algorithm is used

## SimEventListener



When event A occurs in Component 1, then event A is triggered in Component 2

```
one.addSimEventListener(two)
```



```
main(): Arrival Process = new ?????? (.....);  
          Server server = new Server (.....);  
          arrival.addSimEventListener(server)
```